

Activity 6

```
C:\Users\Larry\Documents\GitHub\ME8_Containerization_and_Docker\5-volumes>docker run --rm -d --name dummy lsgarriz/ping:1.0
63a3d1758e4bcf541c9475aa701d5b663c4af50a404bc5addf3bffb9bf7cc

C:\Users\Larry\Documents\GitHub\ME8_Containerization_and_Docker\5-volumes>docker network inspect bridge
[
  {
    "Name": "bridge",
    "Id": "b8b65557d8558717ac091a9a2b015b7c43f6ddc878d3549660e7e6e0a3dc8363",
    "Created": "2021-06-13T08:59:05.1517248Z",
    "Scope": "local",
    "Driver": "bridge",
    "EnableIPv6": false,
    "IPAM": {
      "Driver": "default",
      "Options": null,
      "Config": [
        {
          "Subnet": "172.17.0.0/16",
          "Gateway": "172.17.0.1"
        }
      ]
    },
    "Internal": false,
    "Attachable": false,
    "Ingress": false,
    "ConfigFrom": {
      "Network": ""
    },
    "ConfigOnly": false,
    "Containers": {
      "63a3d1758e4bcf541c9475aa701d5b663c4af50a404bc5addf3bffb9bf7cc": {
        "Name": "dummy",
        "EndpointID": "959c95c2bd81843c2fc59068cbd76170ef7d7b9bdf9c219a1922ab42478e7631",
        "MacAddress": "02:42:ac:11:00:02",
        "IPv4Address": "172.17.0.2/16",
        "IPv6Address": ""
      }
    },
    "Options": {
      "com.docker.network.bridge.default_bridge": "true",
      "com.docker.network.bridge.enable_icc": "true",
      "com.docker.network.bridge.enable_ip_masquerade": "true",
      "com.docker.network.bridge.host_binding_ipv4": "0.0.0.0",
      "com.docker.network.bridge.name": "docker0",
      "com.docker.network.driver.mtu": "1500"
    },
    "Labels": {}
  }
]
```

C:\Users\Larry\Documents\GitHub\ME8_Containerization_and_Docker\5-volumes>

Successfully observed the inclusion of the new container in the bridge network

```

C:\Users\Larry\Documents\GitHub\ME8_Containerization_and_Docker>docker network create skynet
07672ffa6992bbd87e2ed476e30e470c708fcc9dc6ad312b1bef19149d001ebc

C:\Users\Larry\Documents\GitHub\ME8_Containerization_and_Docker>docker network ls
NETWORK ID          NAME                DRIVER             SCOPE
b8b65557d855        bridge              bridge              local
7ac29ca37277        host                host                local
a55c72698c33        none                null                local
07672ffa6992        skynet              bridge              local

C:\Users\Larry\Documents\GitHub\ME8_Containerization_and_Docker>docker network inspect skynet
[
  {
    "Name": "skynet",
    "Id": "07672ffa6992bbd87e2ed476e30e470c708fcc9dc6ad312b1bef19149d001ebc",
    "Created": "2021-06-14T05:20:48.0007392Z",
    "Scope": "local",
    "Driver": "bridge",
    "EnableIPv6": false,
    "IPAM": {
      "Driver": "default",
      "Options": {},
      "Config": [
        {
          "Subnet": "172.18.0.0/16",
          "Gateway": "172.18.0.1"
        }
      ]
    },
    "Internal": false,
    "Attachable": false,
    "Ingress": false,
    "ConfigFrom": {
      "Network": ""
    },
    "ConfigOnly": false,
    "Containers": {},
    "Options": {},
    "Labels": {}
  }
]

C:\Users\Larry\Documents\GitHub\ME8_Containerization_and_Docker>docker run --rm -d --network skynet --name dummy lsgarriz/ping:1.0
346fdab87f9e18f2142dba2ba822fece4882aa579d753eeb12dce48fa2e79f25

C:\Users\Larry\Documents\GitHub\ME8_Containerization_and_Docker>docker ps
CONTAINER ID   IMAGE          COMMAND                  CREATED        STATUS        PORTS   NAMES
346fdab87f9e   lsgarriz/ping:1.0   "sh -c 'ping $PING_T..."   6 seconds ago   Up 5 seconds        dummy

C:\Users\Larry\Documents\GitHub\ME8_Containerization_and_Docker>docker run --rm -d --network skynet -e PING_TARGET=dummy --name pinger lsgarriz/ping:1.0
b3c47424682c49d92feb7ac688acca103a03d59354c034230c7b625ca2886ae7

C:\Users\Larry\Documents\GitHub\ME8_Containerization_and_Docker>docker ps
CONTAINER ID   IMAGE          COMMAND                  CREATED        STATUS        PORTS   NAMES
b3c47424682c   lsgarriz/ping:1.0   "sh -c 'ping $PING_T..."   3 seconds ago   Up 3 seconds        pinger
346fdab87f9e   lsgarriz/ping:1.0   "sh -c 'ping $PING_T..."   About a minute ago   Up About a minute   dummy

C:\Users\Larry\Documents\GitHub\ME8_Containerization_and_Docker>docker logs pinger
PING dummy (172.18.0.2) 56(84) bytes of data:
64 bytes from dummy.skynet (172.18.0.2): icmp_seq=1 ttl=64 time=0.134 ms
64 bytes from dummy.skynet (172.18.0.2): icmp_seq=2 ttl=64 time=0.061 ms
64 bytes from dummy.skynet (172.18.0.2): icmp_seq=3 ttl=64 time=0.060 ms
64 bytes from dummy.skynet (172.18.0.2): icmp_seq=4 ttl=64 time=0.063 ms
64 bytes from dummy.skynet (172.18.0.2): icmp_seq=5 ttl=64 time=0.061 ms
64 bytes from dummy.skynet (172.18.0.2): icmp_seq=6 ttl=64 time=0.076 ms
64 bytes from dummy.skynet (172.18.0.2): icmp_seq=7 ttl=64 time=0.060 ms
64 bytes from dummy.skynet (172.18.0.2): icmp_seq=8 ttl=64 time=0.040 ms
64 bytes from dummy.skynet (172.18.0.2): icmp_seq=9 ttl=64 time=0.033 ms

C:\Users\Larry\Documents\GitHub\ME8_Containerization_and_Docker>

```

Using docker built in DNS by creating a custom network

```
Command Prompt
C:\Users\Larry\Documents\GitHub\ME8_Containerization_and_Docker>docker ps
CONTAINER ID   IMAGE          COMMAND                  CREATED        STATUS        PORTS        NAMES
182d47a78d14   postgres:late "docker-entrypoint.s..." 38 seconds ago Exited (1) 37 seconds ago
76a70746dc2d   postgres:late "docker-entrypoint.s..." 38 seconds ago Exited (1) 37 seconds ago
widgetdb

C:\Users\Larry\Documents\GitHub\ME8_Containerization_and_Docker>docker logs widgetdb
Error: Database is uninitialized and superuser password is not specified.
You must specify POSTGRES_PASSWORD to a non-empty value for the superuser. For example, "-e POSTGRES_PASSWORD=password" on "docker run".

You may also use "POSTGRES_HOST_AUTH_METHOD=trust" to allow all connections without a password. This is *not* recommended.

See PostgreSQL documentation about "trust":
https://www.postgresql.org/docs/current/auth-trust.html

C:\Users\Larry\Documents\GitHub\ME8_Containerization_and_Docker>docker rm widgetdb
widgetdb

C:\Users\Larry\Documents\GitHub\ME8_Containerization_and_Docker>docker run --name widgetdb -d --network skynet -p 5432 -e POSTGRES_HOST_AUTH_METHOD=trust postgres:latest
182d47a78d1459c6244b1f63ff87bcd91e51d608c9f96ee35da3538442d228e

C:\Users\Larry\Documents\GitHub\ME8_Containerization_and_Docker>docker ps
CONTAINER ID   IMAGE          COMMAND                  CREATED        STATUS        PORTS        NAMES
182d47a78d14   postgres:late "docker-entrypoint.s..." 2 seconds ago   Up 1 second   0.0.0.0:58690->5432/tcp
widgetdb

C:\Users\Larry\Documents\GitHub\ME8_Containerization_and_Docker>docker run --name gadgetdb -d --network skynet -p 5432 -e POSTGRES_HOST_AUTH_METHOD=trust postgres:latest
2b2b28887df3c7845f2c32f8eb8b960d756cdc39f6a18b31deea169ce23b3a

C:\Users\Larry\Documents\GitHub\ME8_Containerization_and_Docker>docker ps
CONTAINER ID   IMAGE          COMMAND                  CREATED        STATUS        PORTS        NAMES
2b2b28887df3   postgres:late "docker-entrypoint.s..." 3 seconds ago   Up 2 seconds   0.0.0.0:58691->5432/tcp
gadgetdb
182d47a78d14   postgres:late "docker-entrypoint.s..." 23 seconds ago   Up 22 seconds   0.0.0.0:58690->5432/tcp
widgetdb

C:\Users\Larry\Documents\GitHub\ME8_Containerization_and_Docker>
```

Issues encountered with creating postgres containers. Password field required during creation, else the container exits with an error code 1.

```
Command Prompt
C:\Users\Larry\Documents\GitHub\ME8_Containerization_and_Docker>docker exec -it widgetdb /bin/bash
root@182d47a78d14:/# psql -U postgres
psql (13.3 (Debian 13.3-1.pgdg100+1))
Type "help" for help.

postgres=# \q
root@182d47a78d14:/# psql -U postgres -h gadgetdb
psql (13.3 (Debian 13.3-1.pgdg100+1))
Type "help" for help.

postgres=# exit
root@182d47a78d14:/# docker stop widgetdb gadgetdb
bash: docker: command not found
root@182d47a78d14:/# exit
exit

C:\Users\Larry\Documents\GitHub\ME8_Containerization_and_Docker>docker stop gadgetdb widgetdb
gadgetdb
widgetdb

C:\Users\Larry\Documents\GitHub\ME8_Containerization_and_Docker>
```

Connecting to local databases using psql

```
C:\Users\Larry\Documents\GitHub\ME8_Containerization_and_Docker>docker run --rm -d --name widgetdb --network skynet -p 5432:5432 -e POSTGRES_HOST_AUTH_METHOD="trust" postgres
d0d1f2609b6b6fff50f3510af8d220ba2969e2b119db758c120d5ae206af42503

C:\Users\Larry\Documents\GitHub\ME8_Containerization_and_Docker>docker ps
CONTAINER ID   IMAGE          COMMAND                  CREATED        STATUS        PORTS        NAMES
d0d1f2609b6   postgres      "docker-entrypoint.s..." 5 seconds ago   Up 4 seconds   0.0.0.0:5432->5432/tcp, :::5432->5432/tcp
widgetdb

C:\Users\Larry\Documents\GitHub\ME8_Containerization_and_Docker>psql -U postgres -h localhost
'psql' is not recognized as an internal or external command,
operable program or batch file.
```

Binding a Docker container to the host. (psql not installed on host machine)

